UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/587,542	06/01/2000	Michael G. Luby	19186-001610US	6523

20350 7590 12/12/2007

TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER	
BOUTAH, ALINA A	
ART UNIT	**PAPER NUMBER**
2143	

MAIL DATE	DELIVERY MODE
12/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

mn

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/587,542
Filing Date: June 01, 2000
Appellant(s): LUBY, MICHAEL G.

Phil H. Albert
Reg. No. 35,819
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed September 10, 2007 appealing from the Office action mailed May 22, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

1."TCP-Like Congestion Control for Layered Multicast Data Transfer" by Vicisano et al.

2. 6,505,253 Chiu et al. 1-2003

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over "*TCP-like Congestion Control for Layered Multicast Data Transfer*" by Vicisano, Crowcroft, and Rizzo (hereinafter referred to as Vicisano) in view of USPN 6,505,253 issued to Chiu et al. (hereinafter referred to as Chiu).

Regarding claim 1, Vicisano teaches in a network supporting packet multicasting from a sender into the network, where hosts join and leave a multicast group by sending join and leave messages, respectively, to an access device in the network, an improvement comprising:

a plurality of layers, wherein a layer is a logical channel that carries packets for the multicast group (figure 1);

logic for distributing multicast traffic from the sender over the plurality of layers according to a sending rate associated with each of the plurality of layers (page 996, Introduction; page 997, Layered organization of data); and

logic for accepting join and leave messages at the access device from the hosts, wherein the join and leave messages are associated with one or more layers of the plurality of layers

(page 996, Introduction; page 997, Multicast group membership, page 998, Congestion Control for multicast layered data).

However, Vicisano does not explicitly teach logic for reducing the sending rate of at least on of the plurality of layers over time independent of receiver feedback. Chiu teaches reducing a sending rate of a layer over time independent of receiver feedback ("reducing rate overtime" - col. 1, line 61 to col. 2, line 5; col. 9, lines 47-60; col. 12, lines 51-56; col. 22, lines 28-30; col. 24, lines 61-64 – "independent of feedback" – col. 24, lines 34-36). At the time the invention was made, one of ordinary skill in the art would have been motivated to reduce the sending rate of sending rate of one of the plurality of layers overtime in order to allow the host to adjust itself to an optimum rate for its network (col. 9, lines 50-53).

Regarding claim 2, Vicisano teaches the network of claim 1 further comprising logic for raising the sending rate of an unused layer (page 996, Introduction; page 997, Multicast group membership, page 998, Congestion Control for multicast layered data; page 998, Congestion Control for multicast layered data).

Regarding claim 3, Vicisano teaches in a network supporting packet multicasting form a sender into the network, where hosts join and leave a multicast group by sending join and leave messages, respectively, to an access device in the network, a method comprising the steps of:

accepting multicast join messages at the access device, wherein a join message indicates that a host beyond an interface to the access device requests membership in a layer, where a layer

is a logical channel over which packets are multicast to hosts that are members to a multicast group for the layer (page 996, Introduction; page 997, Layered organization of data);

transmitting multicast packets to a plurality of layers, wherein multicast packets are transmitted by the sender on a given layer at a rate approximately equal to a sending rate associated with the layer (page 996, Introduction; page 997, Layered organization of data);

accepting multicast leave messages at an access device from hosts, wherein a leave message indicates that a host requests removal from a layer indicated in the leave message (page 996, Introduction; page 997, Multicast group membership, page 998, Congestion Control for multicast layered data); and the sender being independent of receiver's feedback (Abstract; page 998: Sender-initiated probes).

However, Vicisano does not explicitly teach reducing the sending rates for each of the layers over time independent of receiver feedback. Chiu teaches reducing a sending rate of a layer over time independent of receiver feedback ("reducing rate overtime" - col. 1, line 61 to col. 2, line 5; col. 9, lines 47-60; col. 12, lines 51-56; col. 22, lines 28-30; col. 24, lines 61-64 – "independent of feedback" – col. 24, lines 34-36). At the time the invention was made, one of ordinary skill in the art would have been motivated to reduce the sending rate of sending rate of one of the plurality of layers overtime in order to allow the host to adjust itself to an optimum rate for its network (col. 9, lines 50-53).

Regarding claim 4, Vicisano teaches the method of claim 3, further comprising a step of offsetting a reduced reception rate at a host due to a reduced sending rate for each of the layers by the host joining one or more additional layers, if a reception rate at the host is to be

maintained (pages 996-996, Relation between throughput and loss rate, page 998, Congestion Control for multicast layered data).

Regarding claim 5, Vicisano teaches the method of claim 3, wherein the step of reducing the sending rates includes reducing the sending rate for a selected one of the layers to zero (figure 3).

Regarding claim 6, Vicisano the method of claim 5, further comprising a step of increasing the sending rate for the selected one of the layers after an idle period has elapsed (figure 3).

Regarding claim 7, Vicisano teaches the method of claim 6, wherein the idle period is longer than leave latency associated with the access device responding to a leave message (page 996, Introduction; page 997, Layered organization of data).

Regarding claim 8, Vicisano teaches in a network supporting packet multicasting form a sender into the network, where hosts join and leave a multicast group by sending join and leave messages, respectively, to an access device in the network, a method comprising the steps of:

transmitting multicast packets to a plurality of dynamic layers at a rate approximately equal to an aggregate sending rate (page 996, Introduction; page 997, Layered organization of data); and

concurrently with the step of reducing, increasing a sending rate of at least one other of the plurality of dynamic layers, thereby maintaining the aggregate sending rate for the plurality of dynamic layers (pages 996-998, Relation between throughput and loss rate, page 998, Congestion Control for multicast layered data); and the sender being independent of receiver's feedback (Abstract; page 998: Sender-initiated probes).

However, Vicisano does not explicitly teach reducing the sending rates for each of the layers over time independent of receiver feedback. Chiu teaches reducing a sending rate of a layer over time independent of receiver feedback ("reducing rate overtime" - col. 1, line 61 to col. 2, line 5; col. 9, lines 47-60; col. 12, lines 51-56; col. 22, lines 28-30; col. 24, lines 61-64 – "independent of feedback" – col. 24, lines 34-36). At the time the invention was made, one of ordinary skill in the art would have been motivated to reduce the sending rate of sending rate of one of the plurality of layers overtime in order to allow the host to adjust itself to an optimum rate for its network (col. 9, lines 50-53).

Regarding claim 9, Vicisano teaches the method of claim 8, wherein a host connected to the network is able to maintain a reception rate over time by joining the at least one other dynamic layer (page 997, Multicast group membership, second paragraph).

Regarding claim 10, Vicisano teaches the improvement of claim 1, wherein the logic for accepting join and leave messages receives join messages from hosts attempting to maintain a reception rate at the host whereby the host joins one or more additional layers to maintain the

reception rate and offset reduced reception rates at a host due to a reduced sending rates for each of the layers (Introduction; page 997, Multicast group membership, second paragraph).

Regarding claim 11, Vicisano teaches the improvement of claim 1, wherein the logic for reducing the sending rate operates to reduce the sending rate of at least one of the plurality of layers independent of congestion (Introduction).

Regarding claim 12, Vicisano teaches the improvement of claim 1, wherein the logic for accepting join and leave messages receives messages from hosts attempting to maintain a reception rate at the host whereby the host joins one or more additional layers to maintain the reception rate and wherein the logic for reducing the sending rate operates to reduce the sending rate of at least one of the plurality of layers independent of congestion (Introduction).

(10) Response to Argument

Appellant's argument has been considered but not found persuasive. In response to Applicant's argument that neither Vicisano nor Chiu teach "reducing the sending rate for each of the layers over time" as claimed, the PTO respectfully submits that this is taught by Vicisanou and Chiu combined as cited above.

For example, Chiu in col. 1, line 61 to col. 2, line 6 discloses using a transmission window to limit the average rate of transmission of bits (bytes or messages) transmitted onto the network. A window is a length of time during which a transmitting station is permitted to transmit onto the network, then during the waiting time the station does not transmit. Upon

expiration of the waiting time, the window is again "open" and the station again transmits for the permitted length of time. The average transmission rate is controlled by use of a window because during the open window length of time, the station transmits at the rate determined by the communications media, and during the waiting time, the station does not transmit. The fact that a window is used to limit the average transmission rate implies that the rate is reduced or increased overtime since a window, by definition, is a length of time.

In response to Appellant's argument that the sending rate is reduced independent of receiver feedback, the PTO respectfully submits that this is taught by Chiu in col. 24, line 34-38 which discloses that the source of a multicast stream can operate in a mode that is sensitive or insensitive to the data reception feedback from the receivers. The insensitive mode clearly implies that the sender can adjust its transmission rate independent of the receiver feedback.

(11) Related Proceeding(s) Appendix

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

ANB

ANB

Conferees:

NATHAN FLYNN
SUPERVISORY PATENT EXAMINER

JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100